REMARKS

Applicants would like to thank the Examiner for the careful consideration and substantive effort given to this case. Applicants have amended claim 1 and cancelled claims 6-8, 11 and 12. Accordingly, claims 1-5, 13-17, 19 and 20 remain pending in this application.

The Examiner rejected claim 4 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention because the limitation "the test item model" had insufficient antecedent basis. Claim 1 has been amended to address this rejection.

The Examiner rejected claim 6 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention stating, "It is not clear that the 'means for...' corresponds to elements in the disclosure that are structurally consistent with Applicant's claimed system." This rejection is moot in light of the Applicants' cancellation of claim 6.

The Examiner has rejected claims 1-8, 11-17, 19 and 20 as being unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 5,779,486 to *Ho et al.* in light of U.S. Patent No. 6,000,945 to *Sanchez-Lazer et al.* The rejection with respect to claims 6-8, 11 and 12 is moot in light of the cancellation of these claims. Applicant respectfully traverses the rejection with respect to claims 1-5, 13-17, 19 and 20 in light of the following remarks.

Independent claim 1 incorporates features not disclosed in the prior art cited by the Examiner. For example, neither *Ho et al.* nor *Sanchez-Lazer et al.*, either alone or in combination, discloses "generating a test item variant using a simultaneous constraint solver," as required by claim 1. The Examiner correctly states, "*Ho et al.* does not disclose expressly using a simultaneous constraint solver." The Examiner further states that *Sanchez-Lazer et al.* teaches the use of a simultaneous constraint solver. However, *Sanchez-Lazer et al.* teaches using

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"constraint sets" to "generate tests using an automated item selection algorithm." *See* 7:2-6. Moreover, the method of *Sanchez-Lazer et al.* requires searching for "at least one characteristic of test items that are needed for the test." *See* 3:44-45. Thus, *Sanchez-Lazer et al.* merely teaches a method for performing item selection by examining characteristics of previously generated test items. This is in direct contrast with claim 1 which requires "generating a test item variant using a simultaneous constraint solver." In other words, claim 1 requires the use of a simultaneous constraint solver for test item generation. Claim 1 does not pertain to test item selection.

In item selection, constraints apply logical conditions to construct a test. For example, a test may be constrained to require a particular number of items. In another example, a test may be constrained to have a number of first items if a number of second items are included. In yet another example, a test may be constrained to not permit certain combinations of test items (e.g., if test item A is selected, do not use test item A'). Each of these constraints can be described using Boolean logic. In addition, the constraints pertain to test items themselves. For example, the constraints may be applied to an assigned characteristic of a test item (e.g., "this is an addition problem").

In contrast, for test item variant generation, as is required by claim 1, constraints can be mathematical in nature. Here, the constraints define the relationships between variables used within a test item. For example, given two test item variables, A and B, a third variable, C, may be generated using a mathematical relationship between A and B. Here, the constraints are applied to the variables used to define a test item instead of the test items themselves. For example, the constraints may be applied to define a relationship between two or more variables.

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Accordingly, the types of constraints used within *Sanchez-Lazer et al.* differ substantially from the types of constraints required for claim 1.

For at least these reasons, claim 1 is allowable over the prior art cited by the Examiner.

Independent claim 5 incorporates features not disclosed in the prior art cited by the Examiner. For example, neither *Ho et al.* nor *Sanchez-Lazer et al.*, either alone or in combination, discloses "using a simultaneous constraint solver to determine values for the variables," as required by claim 5. For at least the reasons cited above in reference to claim 1, claim 5 is allowable over the prior art cited by the Examiner.

Independent claim 13 incorporates features not disclosed in the prior art cited by the Examiner. For example, neither *Ho et al.* nor *Sanchez-Lazer et al.*, either alone or in combination, discloses "simultaneously solving test item model constraints and generating test item solutions," as required by claim 13. For at least the reasons cited above in reference to claim 1, claim 13 is allowable over the prior art cited by the Examiner.

Since claim 2-4 depend from and incorporate all of the limitations of claim 1 and claims 14-17, 19 and 20 depend from and incorporate all of the limitations of allowable claim 13, claims 2-4, 14-17, 19 and 20 are likewise allowable over the prior art cited by the Examiner.

All of the stated grounds of rejection have been properly traversed, accommodated or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. There being no other rejections, Applicants respectfully request that the current application be allowed and passed to issue.
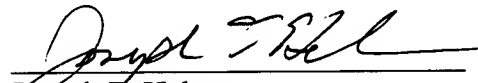
In order to expedite prosecution of this application, if the Examiner does not consider all of the presently presented claims to be allowable, the Applicants hereby request the opportunity

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for an interview with the Examiner. I invite the Examiner to telephone or e-mail me directly to schedule the interview if necessary.

AUTHORIZATION

A fee for a Two-Month Extension of Time is believed to be required for the submission of this Amendment and Response as set forth in the concurrently submitted Petition for Extension of Time. The Commissioner is hereby authorized to charge any additional fees which may be required for this Amendment and Response, or credit any overpayment, to deposit account no. 50-0436.

Respectfully submitted,
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